

To answer two of the Commission's questions on BPL technology:

1. The power lines should definitely be driven differentially rather than in parallel against ground. This would ensure lower radiation and minimize interference to other HF services. In the house the 220VAC should be driven differentially and the common mode impedance for the RF signal source to ground should be low so that the RF can be received on all 110V outlets.

2. There should be a maximum legal radiated emission limit from any type of BPL system to prevent harmful interference to other services. One component of our national emergency infrastructure is the MARS (Military Affiliate Radio System) HF Radio Network. This is activated when normal communications means are disrupted which could be due to natural causes or as we have seen recently due to terrorist attacks. The Amateur Radio Service is charged with providing emergency communications in times of emergency as its most important purpose. Neither of these services would be effective if they were being interfered with by HF emissions from BPL.

I would expect that low RF carrier power levels (on the order of several milliwatts) would be sufficient to provide a high enough signal to noise ratio to support multi-MHz communications rates over the power lines, because there must be very little propagation loss compared to propagation "over-the-air." Is there any information on the nature of the noise in this medium? I would be interested in learning of it and would assist the commission in studying the problem by analysis or link simulations.

I also suggest that amateur radio operators be allowed to use certain parts of the power line spectrum which would support their emergency and experimental operations. There should be a frequency range set aside for this purpose.

Respectfully,

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